UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,457	09/10/2003	Murthi Nanja	Intel/17226	4880

34431   7590   12/13/2007

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ART UNIT	PAPER NUMBER
2192	

MAIL DATE	DELIVERY MODE
12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary		Application No.	Applicant(s)
		10/659,457	NANJA ET AL.
		Examiner	Art Unit	
		Chrystine Pham	2192	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _17 September 2007_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-30_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to Paper filed on 9/17/2007. No claims have been amended.

Claims 1-30 are presented for examination.

Response to Arguments

2.   Applicant's arguments with respect to the Cierniak reference (which Applicants have

pointed out, as subject to co-assignment to or co-owned by Intel Corporation)(Remarks,

page 11, last paragraph) have been considered but are moot in view of the new ground(s)

of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

4.   Claims 1-7, 11, 17-20, 23 and 28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Beadle et al. (US 6530075 B1, "Beadle") in view of Xia et al. (US

2004/0158813 A1, "Xia").

Claim 1

Beadle teaches a method of executing a non-native software instruction (see at least *404, 410*

FIG.4 & associated text), the method comprising:

generating a first native software instruction from a first instruction set based on the non-native

software instruction, the generation of the first native software instruction occurring at the device

(see at least *404* FIG.4 & associated text; *bytecode, class, method, executed, interpreter* col.5:38-

51; FIG.3 & associated text); executing the first native software instruction at the device (see at

least *404* FIG.4 & associated text; *bytecode, interpreter 404* col.6:24-52); generating a second

native software instruction from a second instruction set based on the non-native software

instruction, the generation of the second native software instruction occurring at the device (see

at least *410* FIG.4 & associated text; *bytecode, just in time compiling, hot spot* col.5:38-51;

col.6:24-52); and executing the second native software instruction at the device (see at least *410*

FIG.4 & associated text).

Beadle does not expressly disclose receiving the non-native software instruction at a

[mobile/wireless/handheld] device. However, Xia discloses a method of wirelessly receiving

non-native instructions at a handheld device (see at least *502* FIG.5A & associated text; *508*

FIG.5B & associated text; *mobile devices, non-native applications* paragraph [0003]) and

generating native instructions based on the non-native software instruction on the handheld

device (see at least *504* FIG.5A & associated text; *512* FIG.5B & associated text; *606* FIG.6 &

associated text; *native code wrapper, native code, first class citizen application, native*

applications paragraph [0035]). Beadle and Xia are analogous art because they are both directed

to generating native code from intermediate language instructions. It would have been obvious

to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the

teaching of Xia into that of Beadle for the inclusion of mobile runtime configuration parameter.

And the motivation for doing so would have been to handle communication between native

operating system (i.e., mobile device having different environment) and the non-native

application (see at least Xia, Abstract and paragraph [0009]).

Claim 2

The rejection of base claim 1 is incorporated. Beadle further teaches counting a number of times

the first native software instruction is executed (see at least *number of executions* col.5:65-

col.6:10); and comparing the number of times the first native software instruction is executed to

a threshold (see at least *threshold number* col.6:1-10), wherein generating the second native

software instruction is in response to one of (i) the number equaling the threshold, and (ii) the

number exceeding the threshold (see at least *threshold, hot spot, just in time compiler* col.6:1-10;

timer, counter, number of times, just in time compiling, interpreter col.8:54-col.9:21).

Claim 3

The rejection of base claim 2 is incorporated. Beadle further teaches inserting instrumentation to

count the number of times the first native software instruction is executed (see at least *threshold,*

hot spot, just in time compiler col.6:1-10; *timer, counter, number of times, just in time compiling,*

interpreter col.8:54-col.9:21).

Claim 4

The rejection of base claim 2 is incorporated. Beadle does not expressly disclose receiving the threshold via a mobile runtime configuration parameter. However, Xia discloses receiving the threshold via a mobile runtime configuration parameter (see at least *504* FIG.5A & associated text; *512* FIG.5B & associated text; *606* FIG.6 & associated text; *native code wrapper, native code, first class citizen application, native applications* paragraph [0035]). Beadle and Xia are analogous art because they are both directed to generating native code from intermediate language instructions. It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of Xia into that of Beadle for the inclusion of mobile runtime configuration parameter. And the motivation for doing so would have been that, which has been cited for claim 1.

Claim 5

The rejection of base claim 1 is incorporated. Beadle further teaches wherein receiving the non-native software instruction at the device comprises receiving an intermediate language instruction at the device.

Claim 6

The rejection of base claim 1 is incorporated. Beadle further teaches wherein receiving the non-native software instruction at the device comprises receiving Java byte code at the device.

Claim 7

The rejection of base claim 1 is incorporated. Claim recites limitations, which have been

addressed in claim 4, therefore, is rejected for the same reasons as cited in claim 4.

Claim 11

The rejection of base claim 1 is incorporated. Beadle further teaches wherein generating the first

native software instruction comprises compiling the non-native software instruction at the device

using a just-in-time compiler.

Claim 17

Claim recites limitations, which have been addressed in claims 1-3, 5-6 and 11, therefore, is

rejected for the same reasons as cited in claims 1-3, 5-6 and 11.

Claims 18-20, 23, 28

Claims recite limitations, which have been addressed in claims 2-3, 5, 11, therefore, are rejected

for the same reasons as cited in claims 2-3, 5, 11.

5.   Claims 8-10, 12-16, 21-22, 24-27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being

     unpatentable over Beadle in view of Xia further in view of Souloglou et al. (US

     2002/0100030 A1, "Souloglou").

Claim 8

The rejection of base claim 1 is incorporated. Beadle does not expressly disclose wherein the

first native software instruction comprises an X-bit wide instruction, the second native software

instruction comprises a Y-bit wide instruction, and X is less than Y. However, Souloglou

discloses a method of optimizing received intermediate language instructions and generating

native instructions therefor (see at least paragraphs [0002]-[0003]) wherein the first native

software instruction comprises an X-bit (i.e., 16-bit or Thumb) wide instruction, the second

native software instruction comprises a Y-bit (i.e., 32-bit or ARM) wide instruction, and X is less

than Y (see at least *complex expressions, 32 bit operations, 16 bit operations* paragraphs [0048]-

[0056]). Beadle and Souloglou are analogous art because they are both directed to generating

native code from intermediate language instructions. It would have been obvious to one of

ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching

of Souloglou into that of Beadle for the inclusion of generating 16-bit and 32-bit native

instructions. And the motivation for doing so would have been provide native code representing

operations of different sizes (i.e., 16-bit or 32-bit) (see at least Souloglou paragraphs [0054]-

[0055]).

Claim 9

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein the first native

software instruction comprises a 16-bit wide instruction, and the second native software

instruction comprises a 32-bit wide instruction (see at least *complex expressions, 32 bit

operations, 16 bit operations* paragraphs [0048]-[0056]).

Claim 10

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein the first native

software instruction comprises a Thumb instruction, and the second native software instruction

comprises an ARM instruction (see at least *complex expressions, 32 bit operations, 16 bit*

operations paragraphs [0048]-[0056]).

Claim 12

The rejection of base claim 1 is incorporated. Souloglou further teaches configuring a first code

optimization option prior to generation of the first native software instruction, the first code

optimization option causing smaller code to be generated; and configuring a second code

optimization option prior to generation of the second native software instruction, the second code

optimization option causing faster code to be generated (see at least paragraphs [0004], [0077]).

Claim 13

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein generating a

first native software instruction comprises generating a first plurality of native software

instructions, and generating a second native software instruction comprises generating a second

plurality of native software instructions, the method further comprising: counting a first number

of instructions contained within the first plurality of native software instructions; counting a

second number of instructions contained within the second plurality of native software

instructions; and comparing the first number of instructions and the second number of

instructions, wherein executing the first native software instruction is in response to one of (i) the

second number of instructions equaling the first number of instructions and (ii) the second

number of instructions exceeding the first number of instructions (see at least paragraphs [0109],

[0084]).

Claim 14

The rejection of base claim 13 is incorporated. Souloglou further teaches comparing the first

number of instructions and the second number of instructions, wherein executing the second

native software instruction is in response to the first number of instructions not exceeding the

second number of instructions by more than a predetermined threshold (see at least paragraphs

[0109], [0084]).

Claims 15-16, 21-22, 24-27, 29-30

Claims recite limitations, which have been addressed in claims 2, 8-10, and 13-14, therefore, are

rejected for the same reasons as cited in claims 2, 8-10 and 13-14.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chrystine Pham whose telephone number is 571-272-

3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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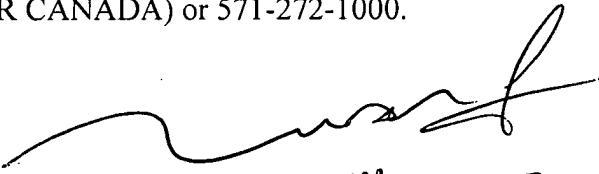
TUAN DAM
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